9

Advantages of Terre Haute, Indiana,

AS A

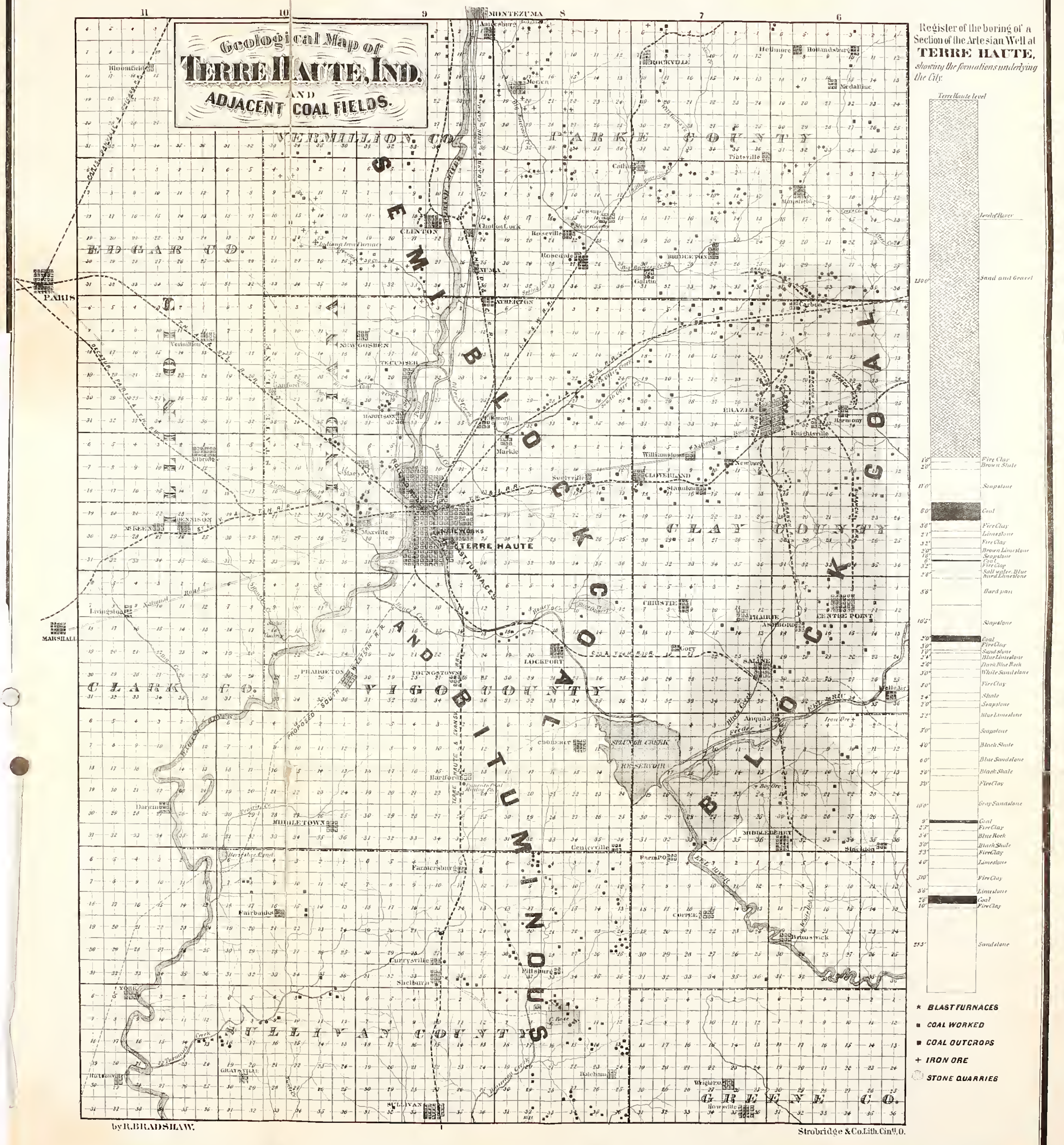
Point for Manufactures,

ESPECIALLY FOR THE

MANUFACTURE OF IRON AND STEEL.

JOURNAL JOB ROOMS

Geological Map of TERRE HAUTE, IND. AND ADJACENT COAL FIELDS.



TERRE HAUTE ASSOCIATION

FOR THE

Promotion of Manufactures

Rooms, Beach's Block, Corner Sixth and Main Streets.

◆

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ROBERT S. COX.	PRESIDENT.
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JOSEPH O. JONES,	SUPERINTENDENT.

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The following exhibit of the advantages of Terre Haute as a manufacturing and business point, has been made by authority and under the direction of the above Association. Its statements have been carefully considered, and are reliable. It will be sent free by mail to those who desire to receive it. All communications should be addressed to

JOSEPH O. JONES.
Superintendent.

ADVANTAGES

—OF—

TERRE HAUTE, INDIANA.

The City of TERRE HAUTE is situated upon the high land on the east bank of the Wabash river, and west side of Fort Harrison prairie, SEVENTY-THREE miles west of Indianapolis. When the Terre Haute and Indianapolis Railroad was completed in 1852, it contained a population of only about 4,000. So rapidly were the commerce and resources of the neighboring country developed by this work that, in 1860, the population amounted to 8,594. It is now increasing more rapidly than at any previous time, as is indicated by the extensive improvements of the last and present seasons. These have not been commensurate with the demand for business houses and residences. Its present population is about 25,000, and its rapid increase will undoubtedly continue.

Few points in the West are so advantageously situated for commerce and manufactures as Terre Haute. Being about equi-distant from each of the leading Western cities, Cincinnati, Louisville, St. Louis and Chicago, it has equal facilities of intercourse with either of them. It cannot have any commercial or manufacturing rivalry to encounter either in Indiana or Illinois. Indianapolis, Lafayette and Vincennes are the three cities nearest to it in Indiana, and each of these is supported by a local commerce and manufactures of its own. There is not likely to be, at least for many years to come, any rival city to it in Illinois; and from the several counties in that State which lie a short distance west of it, it must continue to draw a large trade in the leading and substantial products of that fertile and prosperous section.

Brazil, in Clay county, on the Terre Haute and Indianapolis Railroad, sixteen miles distant, has a population of about 3,000. This town is rapidly increasing. It has acquired its present growth and importance within four or five years, owing to the discovery of the immense bodies of superior coal in its immediate vicinity.

The railroad facilities of Terre Haute are as follows:

I. The Terre Haute and Indianapolis Railroad, from Indianapolis, by Greencastle and Brazil, to Terre Haute, SEVENTY-THREE miles, passing through the counties of Marion, Hendricks, Putnam, Clay and Vigo, in which last named county Terre Haute is situated.

II. The Evansville and Crawfordsville Railroad, from Evansville on the Ohio river, by way of Vincennes,.to Terre Haute, ONE HUNDRED AND NINE miles, and to Rockville, Parke county, TWENTY-THREE miles north of Terre Haute. There is now in operation a railroad from Rockville to Crawfordsville, where it connects with the Louisville, New Albany and Chicago railroad, and runs thence to Logansport, Indiana, and the east.

III. The Indianapolis and St. Louis Railroad, from Indianapolis, by Greencastle, to Terre Hante, SEVENTY-THREE miles.

IV. The St. Louis, Alton and Terre Haute Railroad, from St. Louis to Terre Haute, ONE HUNDRED AND EIGHTY-NINE miles.

V. The St. Louis, Vandalia and Terre Haute Railroad, from St. Louis to Terre Haute, ONE HUNDRED AND SIXTY-FIVE miles.

VI. The Evansville, Terre Haute and Chicago Railroad, which has lately been constructed from Terre Haute, by way of Danville, Illinois, to Chicago, ONE HUNDRED AND EIGHTY-THREE miles. The opening of this road makes a direct line of railroad communication between Chicago and Evansville, by way of Terre Haute, a distance of TWO HUNDRED AND NINETY-TWO miles—EIGHTY-ONE miles less than from Cairo to Chicago by the Illinois Central Railroad. It also reduces the distance from Terre Haute to Chicago about FORTY-SIX miles.

VII. The Cincinnati and Terre Haute Railroad. TWENTY-FIVE miles of this road have been completed, and are now in operation, reaching the coal fields and the inexhaustible beds of superior building stone in the southern part of Clay county.

VIII. The Decatur, Paris and Terre Haute Railroad. This road was originally constructed from Decatur to Paris, in Illinois, but has lately been extended from Paris to the line between Indiana and Illinois, where it intersects with the Vandalia line, and occupies the track of the Terre Haute and Indianapolis Railroad from that point to Terre Haute—a distance of about seven miles. By this road trains run daily from Terre Haute to Decatur, making connection there with other roads leading to Chicago and other parts of Illinois.

A railroad has also been projected from Terre Haute, through Illinois, to Cape Giradeau, on the west bank of the Mississippi river, in Missouri, and contiguous to the iron ore of that region. An organization has been made for that part of this road which lies in Indiana.

The city of Terre Haute is now connected, by means of these roads, as follows:

1. With Chicago in SEVEN hours.
2. With St. Louis in SEVEN hours.
3. With Cincinnati in SEVEN hours.
4 With Louisville in SEVEN hours.
5. With Evansville in SIX hours.

The Indianapolis and St. Louis Railroad connects at Terre Haute with the St. Louis, Alton and Terre Haute Railroad, and both roads are run under the management of the former, constituting one continuous line from Indianapolis, by way of Terre Haute, to St. Louis, a distance of TWO HUNDRED AND SIXTY-TWO miles.

The St. Louis, Vandalia and Terre Haute Railroad connects at the State line, seven miles west of Terre Haute, with the Terre Haute and Indianapolis Railroad, and both roads are run under the management of the latter, also constituting a continuous line from Indianapolis, by way of Terre Haute to St. Louis, a distance of TWO HUNDRED AND THIRTY-EIGHT miles.

The Terre Haute and Indianapolis Railroad Company have constructed twenty-five miles of switches, sidings and branches, extending both north and south from their main line in the neighborhood of Brazil and Knightsville, for the transportation of coal and ore. The Indianapolis and St Louis Railroad Company have also constructed several miles of switches, sidings and branches in the neighborhood of Carbon, for a like purpose. These two roads, and the Cincinnati and Terre Haute Railroad, will be able to furnish facilities for the transportation of all the coal produced from the rich and extensive coal fields of Clay county.

There are now FIVE iron blast furnaces in operation in Brazil, Knightsville and the neighborhood, immediately upon the main line and branches of the Terre Haute and Indianapolis Railroad. Also, two first-class furnaces within the corporate limits of the city of Terre Haute. Between Terre Haute and the neighborhood of Harmony, a distance of twenty miles, there have been about FIFTY coal shafts sunk, all of which are now in successful operation. In the neighborhood of Carbon, and between that place and Terre Haute, on the Indianapolis and St. Souis Railroad, there are twenty shafts in successful operation, and five upon the Cincinnati and Terre Haute Railroad. Many others are also in progress upon the Indianapolis and St. Louis, the Terre Haute and Indianapolis, the Evansville and Crawfordsville, and the Terre Haute, Danville and Chicago roads, and switches will be extended to them as fast as they are ready for mining. Twenty-six coal shafts have also been sunk west of the Wabash river, within from two to five miles of Terre Haute, and others are in contemplation in that vicinity. Coal of a superior quality is, therefore, abundant in the neighborhood of Terre Haute, for every purpose to which it can possibly be applied. By three experimental borings, it has been satisfactorily demonstrated that at the distance of one hundred and sixty feet below the surface, the city and immediate neighborhood is underlaid with a vein of very superior bituminous coal, about six feet in thickness.

Terre Haute is located in the heart of the Wabash Valley—a section of country not surpassed by any in the United States. The district depending on it for its local trade is occupiod by a most energetic and enterprising population, rapidly increasing in wealth. No portion of the United States, of the same extent, furnishes a greater annual average of agricultural products. The local demand, therefore, for every kind of manufactures is constantly and rapidly increasing.

The discovery, within the last few years of the extensive and rich coal fields of Indiana, having directed public attention, and attracted capital to the western part of the State, has given an extraordinary impulse to business in the region of country immediately surrounding Terre Haute. These coal fields embrace a large portion of Southern Indiana, but the most valuable of them, thus far discovered, are found much nearer Terre Haute than any other commercial point. The greater part of the coal is bituminous, and it abounds in every direction, around and in the vicinity of Terre Haute. But large quantities of very superior block or splint coal have been found in Clay, Green and Parke counties. At Brazil, sixteen miles east of Terre Haute, block or splint coal is used, most successfully, in the iron blast furnaces now in operation there, as also at Knightsville, at the Lafayette and Planet furnaces north of the main line of the Terre Haute and Indianapolis Railroad, and at the furnaces in Terre Haute. It is now easy of transportation to Terre Haute by railroad.

Recent observations have very satisfactorily demonstrated that this block or splint coal-field approaches still nearer to Terre Haute, and it is believed that it will be found to reach its immediate neighborhood. Very superior bituminous coal is now mined within two miles of the city, and is found on both sides of the Wabash river. In these coal facilities it has greatly the advantage of any other commercial point in Indiana or Illinois—and cannot be surpassed by any point in the United States, as will appear when its geographical relations with other sections of the country are considered. The accompanying map will show the extent, so far as is now known, of this block or splint coal-field. It is already ascertained to be sufficiently extensive to supply coal for manufacturing purposes for a great many years to come, and is believed to be much larger. Most reliable and intelligent citizens of Parke assert that it extends much further into that county than is indicated by the map; and the same class of citizens in Vermillion insist that it is also found in that county, especially in the region between Newport and Highland, west of the Wabash river.

Carboniferous, red and brown hematite iron ores are found in large quantities in the immediate vicinity of these beds of coal, in the counties of Green, Clay and Parke, on the east side of the Wabash river, and in Vermillion on the west side, and near the line of the Terre Haute and Danville Railroad, beginning within twelve miles of Terre Haute, where a blast furnace was in operation a few years ago, which manufactured a superior article of pig-iron. The carboniferous iron ores predominate. Magnetic iron ores are also found in considerable quantities, but not so extensively as the carboniferous and the hematites. These ores mix, as all iron manufacturers understand, most advantageously and profitably, with the specular and magnetic ores of the Lake Superior region, and the Iron Mountain and Pilot Knob of Missouri. Such admixture is absolutely necessary to the manufacture of the best quality of iron, and therefore, the point at which they can be most readily brought together, is the most desirable for the location of blast furnaces and rolling mills. No point in the United States has advantages superior to those of Terre Haute, in this respect.

The railroad from Nashville, Teneessee, to Henderson, on the Ohio river, in Kentucky, is now completed, and this road is now running in connection with the Evansville and Crawferdsville Railroad. Since the completion of the road from Terre Haute to Chicago, therefore, Terre Haute is placed on a direct line of railroad communication between Nashville and Chicago, connecting it by railroad, with New Orleans, Mobile, Savannah and Charleston, and all the intermediate cotton regions of the South. The advantages of this connection will be readily perceived. From Chicago to Evansville the course is almost due south, by the Chicago and Danville, Terre Haute and Danville, and Evansville and Crawfordsville Railroads, so that, by this route, the distance from Chicago to Nashville will be FOUR HUNDRED AND FORTY-FIVE miles, or FORTY-TWO miles less than by any other practicable route between those points. At Nashville, therefore, a connection will be formed with railroads running to every part of the South.

The area of the coal deposits in the United States is something over 200,000 square miles. About one-twentieth of this area is in Indiana; Terre Haute being the center, from north to south. The area in Tennessee is about 3,700 square miles; in Georgia about 180 square miles; and in Alabama about 4,300 square miles. That in Indiana, therefore, exceeds the aggregate area in these three States. The coal measures in Tennessee are confined mostly to the regions of the Cumberland Mountains, and are comparatively inaccessible, except in the vicinity of Chattanooga; where hematite iron ore is also found. Those of Alabama are the most valuable in the neighborhood of Lookout and Sand Mountains, but eastwardly they are subject to great depression, and westwardly to thinning out. The annual product of all these coal fields in Tennessee, Georgia and Alabama is less than one-half of that in Indiana. Independently, however, of the large excess of quantity in the annual product of coal, there are several important considerations which tend to show that the advantages are greatly in favor of Terre Haute, as a point for the manufacture of iron, over any that can exist either in Tennessee, Georgia or Alabama. The abundant supply of block or splint coal, free from sulphur, with which Terre Haute is supplied, will save the expense of coking or charring, which cannot be avoided in either of those States. And as the best iron is only made by an admixture of the specular or magnetic and carboniferous and hematite ores, it can, necessarily, be manufactured much more cheaply at Terre Haute than at any point south of it; because the specular and magnetic ores, of Lake Superior and Missouri, cannot reach the coal and hematite iron regions of Tennessee, Georgia and Alabama, except upon long lines of railroad transportation, and at heavy additional expense. Hence, the Southern States must, of necessity, depend mainly upon Terre Haute and its vicinity for their supply of iron and iron manufactures, now that the railroad from Henderson to Nashville is finished; Terre Haute being nearer to them, and in more direct railroad communication with them, than any other point in the United States, situated within a coal and iron region. This trade will involve an exchange of the cotton from the South for the iron and iron manufactures of Indiana, and thus establish an intercourse between these sections, greatly to the benefit of both. Another consequence must also follow: the abundant supply of water at Terre Haute will greatly facilitate the manufacture of cotton, and the interchange of productions will invite it to an extent sufficient to furnish a supply of cotton goods to Indiana and Illinois, and also to a large portion of the South, at a saving in the cost of transportation of the raw material to, and the manufactured fabrics from the Eastern States. These facts go to show that, whether for iron or cotton manufactures, there is no point west of the Allegheny Mountains, which combines so many advantages as Terre Haute, especially for the manufacture of iron. Its central position between the large cities of the West, gives it facilities which no other commercial point can have. In the following most important particulars, these facilities are unequalled:

1. The presence of large and inexhaustible quantities of block or splint and bituminous coal.

2. The presence of rich hematite iron ore in a great abundance; with a more limited supply of magnetic iron ore.

3. The presence of a plentiful supply of carboniferous limestone, for fluxing.

4. The directness of communication with the specular and magnetic iron regions of Lake Superior and Missouri.

5. The directness of communication with the four leading Western cities, and with all other commercial points in the Northwest and South.

Terre Haute is, in fact, the only commercial point in the Northwest combining all these advantages in so high a degree. And the most enterprising and intelligent iron manufacturers have not been slow to discover the fact. Two rolling mills have already been built, and are now in successful operation—one for the manufacture of nails, and the other for merchant iron. The nail works have a capacity of three thousand kegs of nails weekly; and the rolling mill five thousand tons of merchant iron per annum. The Vigo Iron Company have in operation two blast furnaces, with a capacity of fifteen thousand tons of pig iron per annum. At the head of this enterprise is one of the most experienced iron manufacturers in the United States. That others will be built there is little doubt, as heavy capitalists from Pennsylvania and elsewhere have visited Terre Haute with a view to investigate its advantaues. All these concur in their estimate of the great inducements it offers for investments.

The rapid increase of the iron and coal trade of the United States is familiar to all business men. That of the former, including both bar and pig iron, did not exceed $40,000,000 in 1850, while in 1870 it exceeded $200,000,000. Since 1870 the demand has continued steadily to increase in consequence of the exportation of pig iron to England. As the demand in that country must be greater in the future than it is now, owing to the increased difficulty of procuring coal and the increase of mining labor, it may be reasonable to expect that this great interest will become more and more important every year; so that all those sections where iron can be manufactured profitably will be taxed to their utmost capacity to supply both the domestic and foreign demand.

In 1869 the value of the anthracite coal mined in the United States, at an average of $3.50 per ton at the mines, was $56,000,000, and of the bituminous, at $2.50 per ton, was $31,500,000. The aggregate value was $87,500,000. Since then the quantity of bituminous coal mined has been greatly increased, until for the year 1873 the aggregate does not fall far short of $150 000,000—an increase of nearly one hundred per cent. in three years. This fact is, of itself, sufficient to show how important to the wealth and material prosperity of the whole country the coal regions are becoming.

The general material improvement of the country is equally rapid and progressive, and by a comparison of the tables furnished by the census bureau it will be seen that it is greater in the West than in any other part of the United States. Taking the demand for agricultural implements as the basis of calculation, we find that the per centage of increase during the last decade has been several hundred per cent. greater in the West than in the Middle or the New England States. And while the largest capital is now employed in iron manufactures in the Middle States, and the value of the products there exceed those of any other section, there is every reason for believing that, in a few years, these advantages will be in favor of the West. It must soon occur, under the controlling influence of the laws of trade, that the necessary amount of capital to produce the agricultural implements demanded by the West, must be drawn to such points in the West as furnish the greatest facilities for transportation, and the cheapest and most abundant materials for manufacture. There is no point within any known coal and iron region, situated so near the commercial center of the Western States—none other so connected with them by railroads—as Terre Haute. A circle with Terre Haute as its center, and Pittsburgh on the line of its circumference, will embrace within it from three-fourths to four-fifths of the population of these States. Considered therefore, geographically, and with reference to the facilities for manufac_turing iron, agricultural implements, etc., as well as transportation, TERRE HAUTE STANDS WITHOUT A SINGLE RIVAL.

The importance of block or splint coal in the manufacture of iron is well understood by iron men. A single fact will show the value of that found in the neighborhood of Terre Haute. On the Big Muddy river in Missouri, about one hundred miles south of St. Louis, a bituminous coal bearing a striking resemblance to the block, has been discovered. Yet it has been demonstrated by actual experiment that this is not suited for the manufacture of iron, and large quantities of block coal from the vicinity of Terre Haute have been carried to the Missouri furnaces to be combined with this Big Muddy coal, in the proportion of three-quarters of the block to one-quarter of the latter. In the absence of the block the Big Muddy coal has to be used with coke, brought from Pittsburgh, in the proportion of three-fifths of the former with two-fifths of the latter.

It is now well understood amongst railroad men that STEEL rails are better suited to the heavy traffic now carried on than those made of IRON—which are commonly used. In England they have been put down upon all the leading roads, and already to a great extent in the United States. Not only on the score of durability and safety, but on that of economy also, is the preference given to them; so that, in the course of a few years, we may expect to see all the principal roads in this country supplied with steel rails. This, of course, will create an immense demand for steel—greater by far than has ever been known in the United States before. Consequently, it becomes a most important question, whether steel cannot be manufactured as well and as cheap in this country as it can be in Great Britain. At present, nearly all our steel rails are procured from that country, and the immense amount of money paid for them annually, contributes in a most essential degree, to the support of British manufactures. It certainly is not desirable that this state of things shall continue, and it is manifestly due to American interests and enterprise that it should be terminated with as little delay as possible. Can this be done?

No mode of steel manufacture has thus far been discovered superior to, if so good, as the pneumatic or Bessemer process—which is practiced both in England and the United States. By this process all the carbon is burnt out from the crude cast-iron, which prepares it for steel; so that the less carbon there is in the crude mass, the more easily and readily the conversion takes place. In the most of the experiments in this country of steel manufacture, by this method, the chief difficulty has been to procure cast-iron sufficiently free from carbon and sulphur, at a cost which would enable American steel to come in competition with that imported from England. The expense of charcoal and of coked-coal has been very heavy—

although cast-iron made with either of these is fully equal, in point of quality, for conversion into steel, to any made in England. The result has been that the American manufacturers of steel have been compelled to import their cast-iron from England, greatly to the injury of our own interests.

Professor T. Sterry Hunt, of Montreal, late President of the American Association for the Advancement of Science, in addresses made at Indianapolis and Terre Haute, during a visit of the Association to both of these places, alluded in the highest terms of commendation, to the block or non-coking coal which lies near Terre Haute, and its adaptability to the manufacture of steel. In his published address, delivered at Indianapolis, August 23, 1871, amongst other things, he said:

"At Cleveland, where the Bessemer works are established, they have used Lake Superior charcoal iron. But that is not found to be quite the thing—the reason apparently is that it does not contain silicon enough. With coal from the Mahoning valley, and Lake Superior ore, a metal has been made that, when mixed with charcoal pig iron, gives an excellent Bessemer metal.

"The supplies of proper ore of steel in England are diminishing, and the price is going up so rapidly that as the demand for Bessemer steel continues, England may yet be tributary to America for pig iron to use in the Bessemer process.

"In the East we use chiefly Pennsylvania anthracite coal and charcoal—and the cost of charcoal in most places is too great. Charcoal iron alone does not seem exactly fitted for the Bessemer process, unless some way be devised by which it can be given a sufficient amount of silicon. There remains then but two kinds of fuel—coke and raw coal. Most coal has the property of coking; so that if you throw the ordinary raw coal into a blast furnace it will become agglutinated together, and is totally unfit for the manufacture of iron. The consequence is the costly process of coking or charring has to be resorted to, by which can be obtained a hard. metallic looking fuel which can be used with success in the blast furnaces.

"There are some localities where there is found a non-coking coal which can be used in blast furnaces, such as the block coal of your vicinity. It does not swell up, and will burn as freely in the charge of the blast furnace as anthracite or charcoal. When you can command coal of that kind you are able to dispense with the costly operation of coking it, and in this way an enormous advantage is gained. Professor Cox communicated a paper to the Society this afternoon, in which he spoke of these beds of coal. They are comparatively rare, so a region possessing a coal of this kind—that is used as charcoal or anthracite—possesses great advantages for the manufacture of iron; provided the coal is sufficiently pure and free from sulphur.

"When you can bring together a pure coal of this kind and a pure ore like those of the Iron Mountain and the Pilot Knob of Missouri, and the south shore of Lake Superior, you have most favorable conditions for the manufacture of iron. It is a delicate matter in the case of any new iron to say what is its adaptability for any particular branch of industry, especially for the Bessemer process. The line that in this case distinguishes iron fit from iron unfit is a very delicate one; the most practical way is to make a direct trial in the Bessemer converter."

The speaker was assured that iron produced from our own coal, in Clay county, with Lake Superior or Missouri ores, has been found, in the Bessemer works in Chicago, to fully answer the requirements of the process; in other words, we have succeeded in producing a metal well adapted for the manufacture of Bessemer steel. If it be found that constantly and regularly you can produce a metal directly fit for conversion into Bessemer steel by the ordinary process, the speaker thought it scarcely possible to over estimate the importance of such a discovery, not only for Indiana, but a wide portion of the country around. This coal can be mined so cheaply, and transportation by so many lines of railroad is so convenient, that right here may well grow up a great center for Bessemer steel industry.

In a subsequent speech the same gentleman said that the block coal in the neighborhood of Terre Haute "was pre-eminently fitted" for the manufacture of Bessemer steel, "and he could see no reason why Terre Haute shall not be the great center for the manufacture" of that article.

He further said that "only recently at Johnstown, Pa., where they roll fifteen hundred tons of iron rails weekly, they have put up two large Bessemer converters. They cannot bring iron from England with advantage; but they will have to depend upon Lake Superior and Missouri for ore, and use charcoal or find a superior quality of coke to enable them to obtain a proper iron for the purpose. They have lately made inquiries as to the practicability of getting iron from your region to be transported through Pittsburgh east, there to be converted into Bessemer steel, and brought back, perhaps, to lay with steel rails the railways of Indiana. Steel rails are rapidly taking the place of iron. All the great railroad companies are declaring they will lay down no more iron rails, unless obliged to. All the railroads spanning the continent must be laid down eventually with Bessemer steel rails—"Bessemer" said Dr. Hunt, because with the history of steel before us, he saw no other way to get metal so cheaply and so well fitted for the purpose, as by the Bessemer or "pneumatic process."

This distinguished scientific gentleman has thus demonstrated that the point at which the non-coking coal and the iron ore can be most readily and cheaply brought together, is the most desirable for the manufacture of steel and iron; and that such a point must become of immense importance in the supply of these articles—especially of steel rails. And it is proper to remark in this connection that a premium was awarded at the great international fair at Vienna last year, to the block coal from mines in the vicinity of Terre Haute and Brazil, and another to the pig iron manufactured with it.

There is no point in the United States where these advantages are so combined, or exist in so high a degree, as at Terre Haute, when we take into consideration its local and commercial importance, the facilities it possesses for transportation, and its abundant supply of water. A glance at the map will show how easily the iron ores of Missouri and Wisconsin may be brought here, and there is every reason to believe that the native ores may be extensively and profitably used. The block coal-field is so near that coal is procured almost as cheaply as at the mines—the difference in price being more than compensated for by the superior facilities for procuring water.

For many years to come the iron manufacturers of western Indiana will have to rely, mainly, for their supply of ore upon that obtained at the Iron Mountain and at Pilot Knob, in Missouri. The distance from Terre Haute to the Iron Mountain is two hundred and forty-six miles, and to Pilot Knob two hundred and fifty two miles. This ore reaches Terre Haute at less cost for transportation than it does any point east of it in Indiana. And this fact not only gives Terre Haute a decided advantage over any other point in Indiana for manufacturing iron, but also over Pittsburgh, for the ores are brought here by seven hundred and fifty miles of transportation less than the Lake Superior ores are carried to Pittsburgh. And the same relative advantages exist over the manufacturers in Ohio.

And these advantages, arising out of the distance of transportation, are of essential value in an economical point of view, entering as they do, necessarily and materially, into a calculation of the cost of manufacturing iron. They are greatly in favor of Terre Haute over Pittsburgh, or any other manufacturing point in the West. But Terre Haute has another important advantage over Pittsburgh in the abundant supply of the block coal in its vicinity. This block or splint coal can be used without coking or charring, which is not the case with the bituminous coal in Pennsylvania or elsewhere. Its entire freedom from sulphur enables the best iron to be made with it, freed from the presence of phosphorus. And when it is also considered that the cost of fluxing and of labor, the interest on capital, repairs and superintendence, vary but little in the different localities. it will be seen that, by the saving in transportation and fuel, a ton of iron can be manufactured at Terre Haute several dollars cheaper than Pittsburgh. And the same advantages exist in its favor as regards all other points in the West. It is not possible that iron can be manufactured anywhere in the coal fields of Tennessee, Georgia or Alabama, as cheaply as at Terre Haute, even though there may be found there an equally abundant supply of limestone and hematite iron ores. The same advantages over Chattanooga, exist in favor of Terre Haute, in the possession of block coal, and in the transportation of specular and magnetic iron ores—the transportation from the Iron Mountain and Pilot Knob, in Missouri, being more than double what it is in Terre Haute.

In this connection it should be observed that, although there are red and brown hematite iron ores found in that portion of Tennessee which lies west of Nashville, there is no coal with which to manufacture them in any of the sections where it is found. The coal-fields of the West are peculiar in this: that from Pittsburgh to the mouth of the Ohio river, the only coal suitable for manufacturing iron is found at Zanesville, Ohio, which cannot be used without coking. Commencing some forty or fifty miles above the mouth of the Tennessee and Cumberland rivers, no coal is found on or near these streams; and the iron ore in that region cannot be manufactured without coal from Chattanooga, which also has to be coked.

It may be asserted, therefore, that capital can, no where else, be more safely invested in the manufacture of iron, than in Terre Haute. The supply of water for this and all other manufacturing, as well as for domestic purposes, is abundant. Water works have been constructed north of the city, which already supply the city with water from the Wabash river, and furnish the amplest protection against fire, by means of hydrants suitably situated. In this respect the experiment tried has been a complete success. The city is also well supplied with gas.

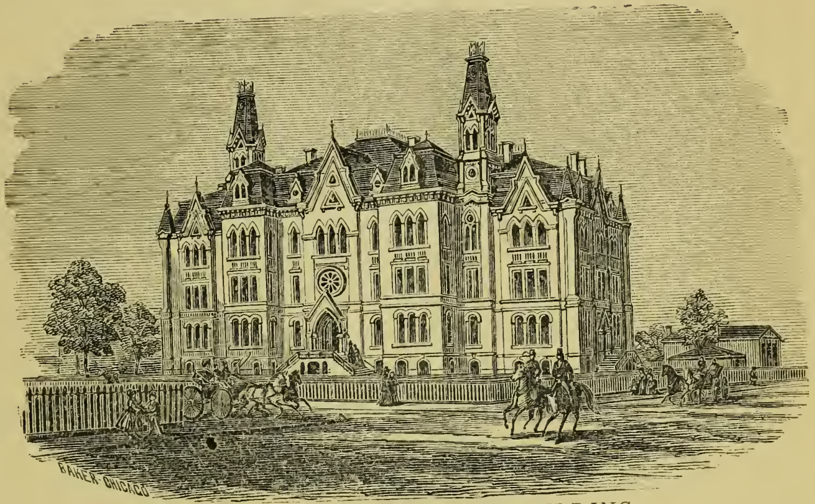
There are few points so well supplied with all the varieties of valuable timber suitable for manufacturing and building purposes as is the city of Terre Haute.

White and yellow poplar, black walnut, white walnut, white and burr oak, sugar-maple, hackberry, hickory and other hard woods, abound in the heavily timbered forests adjacent to the Wabash river, and in adjoining counties penetrated by our railroads.

The river furnishes the means of transporting large quantities of this timber to Terre Haute, and being navigable a considerable portion of the year for small boats, quite an important trade is thus carried on with the river towns.

The county of Vigo has lately expended eighty thousand dollars in the construction of a free draw-bridge at this point; thus removing all tax from the transportation of coal by wagons from the west side of the river, where it is found within two miles of the city, cropping out from the hills and also two lower veins, one at about forty feet, and the other one hundred feet below the surface.

Terre Haute, as a place of permanent residence, is not surpassed by any city or town in the whole country. It combines advantages not surpassed elsewhere. Its beautiful and healthy location on Fort Harrison prairie commands the attention of all visitors, while its elegant private residences, fine business houses, wide streets, and handsomely improved grounds, are incontestable evidences of its prosperity. It has a population distinguished for its intelligence and enterprise, and is surrounded by an agricultural region unsurpassed in the United States—thus combining the best social advantages with every desirable opportunity for business.



STATE NORMAL SCHOOL BUILDING.

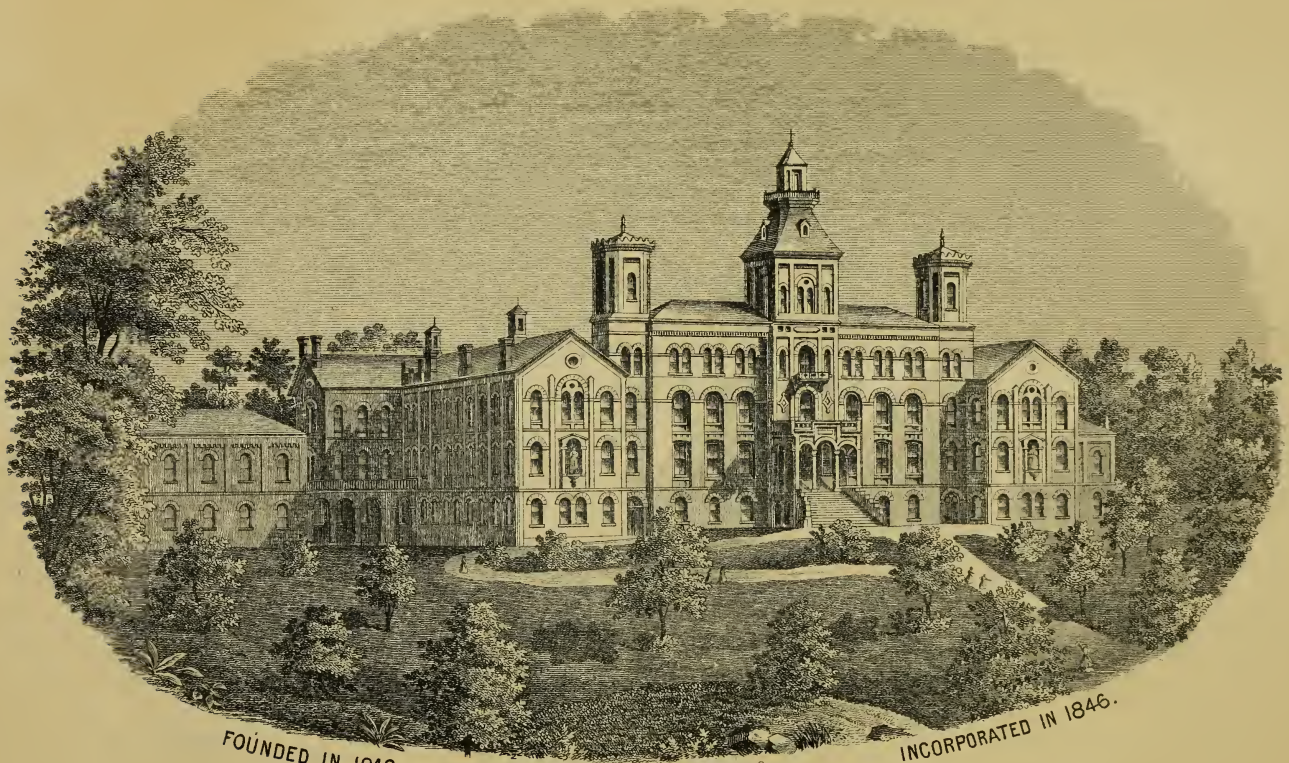
The educational advantages of Terre Haute are very superior. There have been already built eight common school houses, of fine architectural structure, admirably suited for the purposes designed; and the number will be increased from time to time, as necessity shall require. The City High School is in a very flourishing and most satisfactory condition; and the graduates of this school are fully prepared to enter the highest academies and colleges in the country. The number of pupils in attendance on these schools during the last year, was three thousand one hundred and fifty eight. The Indiana State Normal School is located here, and although it has been in operation but four years, has already reached a position of eminence equal to any acquired by schools of this kind in the United States. The object of this school being to educate teachers for the common schools of the State, its influence is already felt and acknowledged throughout the State; and it will undoubtedly reach a higher degree of usefulness. It is the only institution of the kind yet established by the State. The number of pupils in atttendance at the present term is two hundred and sixty-five.

The Terre Haute Commercial College has become one of the most useful educational institutions of our city. Whole number of students enrolled, 309; average attendance, 170; graduates last year, 29.

Besides these schools, supported by the State and the common school fund, there is a flourishing school in the city, under the management of the Catholic Church, and another under that of the Sisters of Providence. The latter have also a boarding school for young ladies, situated about four miles west of the Wabash river, and at one of the most delightful and highly improved spots in the State. It is known as "St. Mary's of the Woods," and has been successfully conducted for a number of years. At this school young ladies are trained, under the direct personal care of the most competent tutors, in all the higher branches of education, and in every accomplishment.

While Terre Haute is not known as "the city of churches," yet it is as well supplied with them as any city of its population in the United States. Nearly all the denominations of christains known in this country, have fine church edifices, conveniently located; and some of them two. The aggregate weekly attendance on the several Sunday Schools is very large.

The following compilation will furnish a fair idea of its business—which is rapidly increasing. That this increase will be still more rapid and permanent, may be confidently asserted. It cannot be otherwise when its peculiar and acknowledged local advantages are taken into account. The immense and inexhaustible coal fields, surrounding it in every direction, which are now undergoing development, give the most reliable assurances of this, and when to these are added its other advantages, there can be no reasonable doubt of its future, either as a manufacturing or commercial point, or as an attractive and desirable place of residence.



FOUNDED IN 1840.

Lith. of Strobridge & Co. Cin. O.

INCORPORATED IN 1846.

St. Mary's of the Woods.

TABLE

Showing the annual sales of merchandise in the city of Terre Haute, and products of some other industries:

Agricultural Implements	$ 135,000
Auction Sales	95,000
Boots and Shoes, wholesale	125,000
Boots and Shoes, retail	424,700
Books and Stationery	113,000
Clothing and Tailoring	431,000
Dry Goods, wholesale	450,000
Dry Goods and House Furnishing Goods, wholesale and retail	1,104,000
Drugs, Medicines and Paints	406,000
Fancy Goods	188,000
Furniture (exclusive of factory)	84,300
Groceries and Liquors, wholesale	2,035,000
Groceries and Provisions, retail	1,345,100
Hardware, wholesale and retail	745,000
Hats and Caps	83,000
Jewelry	73,000
Millinery Goods	106,000
Music and Art Stores	45,000
Notions, wholesale	550,000
Variety Goods	26,000
Optical Instruments	3,000
Paper Dealers	25,000
Queensware	60,000
Sewing Machines	165,000
Leather and Hides	425,000
Stoves and Tinware	313,000
Seed Business	20,000
Lumber (exclusive of mill product)	315,000
Tobacco and Cigars (exclusive of factories)	89,500
Butchers	193,000
Confectioners and Bakers	198,800
Coal Dealers (home trade)	175,000
Dyers	6,000
Feed and Produce, retail	146,600
Fish and Poultry	17,500
Photographs	16,000
Printing Offices	101,500
Blacksmiths	35,000
Lime	20,300
Cement	3,750
Total	$10,893,050
Add Manufactures	6,789,500
Total	$17,682,550

TABLE

Showing the annual amount of manufactures in the city of Terre Haute:

Blast Furnaces	$ 450.000
Iron and Nail Works	750,000
Rolling Mill	290,000
Car Works	650.000
Breweries	165.000
Boilers and Sheet Iron	110.000
Brick Yards	106,000
Brass Foundry	4,000
Book Bindery	7.000
Basket and Willow Ware	4.000
Cooperage	221,000
Stave Factory	150,000
Carriage Body Shop	2,500
Carriage and Wagon Shops	98,200
Distillery	1,000,000
Furniture Factory	90,000
File Works	1,500
Gunsmiths	5,500
Gas and Steam Fitting	8,000
Harness and Saddles	58.700
Hosiery	1,000
Hominy Mill	250.000
Saw Mill	125,000
Woolen Mills	160,000
Flouring Mills	1,270,000
Ice from River	15,600
Foundry and Machine Shops	185,000
Locksmith	2,500
Machinist (Patterns and Models)	8,000
Marble and Stone Works	91,000
Mattress Factory	5,000
Planing Mills	134,000
Pump Factory	6,000
Plow Factory	100,000
Rope Factory	1,500
Stove Factory	30,000
Soap and Candle Factory	20,000
Truss Hoop Factory	1,500
Trunk Factory	12,000
Wheel Factory (Hub and Spokes)	80,000
Cigar Factories	120,000
Total	$6,789,500

TABLE

Showing the number of persons employed, and the amount of wages paid annually by our principal industrial establishments:

	No. Employes	Annual Wages
Terre Haute & Indianapolis Railroad to employes residing in the city	400	$297,624
Terre Haute & Evansville Railroad	53	36,000
Terre Haute, Danville & Chicago railroad	90	57,000
Other railroads	85	54,000
Terre Haute Iron and Nail Works	264	170,322
Wabash Iron Company (rolling mill)	80	100,000
Vigo Iron Company (blast furnaces)	45	35,450
Car and Wheel Works	185	104,000
Eagle Iron Works	50	30,000
Phœnix Foundry and Machine Shops	45	29,000
Wheel and Hub and Spoke Factory	60	27,600
Furniture Factory	25	16,000
Four Planing Mills	112	74,500
Two Woolen Mills	72	28,000
Plow Works	25	15,600
Stave Factory	53	39,000
Two Boiler Works	33	19,800
Distillery	90	72,800
Gas Light Company	41	25,000
Water Works Company	12	7,000
Four Flouring Mills and one Meal Mill	64	55,900
Hominy Mill	35	22,500
Saw Mill	30	23,400
Brick Yards (five months)	210	52,650
Carpenter Shops (ten months)	150	90,000
Marble and Stone Works (ten months)	40	31,200
Carriage Shops	43	26.832
Stove Factory	12	7,500
Cooper Shops (ten months)	160	96,320
Breweries	30	23,400
Cigar Manufactories	125	56,316
Trunk Factory	7	4,368
Machine Shop (Patterns and Models)	5	3,900
Painters (ten months)	40	26,000
Printers and Book Binders	60	46,800
City Graded Schools	60	28,581
Tailors	67	41,808
Blacksmiths	30	18,720
Harness and Saddle Makers	40	20,800
Tin and Sheet Iron Workers	45	23,400
Bakers and Confectioners	59	30,680
Lumber Yards	51	26,520
Brick Masons (nine months)	40	39,780
Plasterers (nine months)	25	20,475
Laborers for Masons and Plasterers (nine months)	105	55,282
Boot and Shoe Makers	45	35,100
Ten Small Manufacturing Establishments	34	17,680
Engaged in Selling Merchandise	964	601,536
Total	4,396	$2,766,144

GRAIN STATISTICS FOR 1873.

	Bushels.	Bushels.
WHEAT.		
Bought for Shipment	200,000	
Manufactured at the Flour Mills	750,000	
		950,000
CORN.		
Manufactured into Meal	75,000	
" at Hominy Mill	325,000	
" at Distillery	300,000	
Bought for Shipment	875,000	
		1,575,000
Other Grains used at Distillery		35,000
OATS.		
Bought for Shipment		75,000
RYE.		
Bought for Shipment		25,000
Total number Bushels		2,660,000

PORK STATISTICS FOR 1873.

		Pounds
Packed for Shipment	45,000 Hogs	
Average nett weight	210 pounds	9,450,000
Average cost	$5.25 per 100 pounds nett	$496,125

FINANCES OF THE CITY.

ASSETS.

Evansville & Crawfordsville Railroad stock	$100,000
Terre Haute & Cincinnati Railroad Stock	100,000
Cash on hand and amount now due on tax duplicate	90,000
City property	50,000
Total	$340,000

LIABILITIES.

Evansville & Crawfordsville Railroad Bonds	$100,000
Terre Haute & Cincinnati Railroad Bonds	89,000
Water Works Bonds	43,000
Local Debt	29,000
Total	$261,000
Assests over liabilities	$79,000

All of these bonds bear 7 per cent. interest.

FINANCES OF THE COUNTY.

The county of Vigo has no indebtedness except eighty thousand dollars, recently invested for a free bridge across the Wabash river at this point. Principal payable in ten years, drawing interest at 8 per cent.

THE GAS LIGHT COMPANY.

Has lately erected entirely new and commodious works on the banks of the river. Fourteen miles of Mains are already laid, and will be increased with demand.

THE WATER WORKS.

Have a capacity of three million gallons daily. They have two sets of machinery, either one of which is capable of throwing eight streams one hundred feet high. Twelve miles of mains are already laid, and will be increased as the wants of the city require

BANKS.

Terre Haute has two National Banks, four Private Banking Establishments, and one Savings Bank.

THE GARDENS, NURSERIES AND GREEN HOUSES.

Adjacent to the city are not to be omitted from the list of our most desirable institutions. Not only is the city well supplied with their valuable productions, but large quantities are annually shipped to less favored localities.

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